REMBASS-II

L3 communications
Communication Systems–East

Date Revised: 30 JAN 04

VENDOR DESCRIPTION

REMBASS-II is the the U.S. Army's type standard unattended ground sensor system. It is a passive, covert sensor system that detects, classifies, and determines the direction of travel of intruding personnel and vehicles. REMBASS-II comprises three sensor types: Seismic-acoustic (S/A), passive infrared (PIR), and magnetic (MAG). These sensors utilize sophisticated signal processing to achieve a high probability of detection with a very low false alarm rate. The sensors communicate target messages up to 15km using LPI/LPD burst transmissions on one of 599 channels in the VHF band. When used in conjunction with the Army's AMDS operator display software, the system provides commanders with enhanced situational awareness and target development capabilities.

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PM RUS Robotic & Unmanned Sensors

Business Category: Large Business

UGS

Power Source	
Sensors	4 COTS 9V lithium batteries 30 days @ 1000 activations/day @ -40°C 45 days @ 1000 activations/day @ +20°C
Supplemental Battery Box	8 COTS 9V lithium batteries Additional 60 days mission life
Monitor	4 COTS 9V lithium batteries 7 days @ 4000 activations/day @ -25°C 12 days @ 4000 activations/day @ +20°C
Repeater	1 BA-5590 lithium battery 25 days @ 4000 activations/day @ -40°C

Environmental			
High Temp	+71.1°C	Low Temp	-40°C (Monitor -25°C)
Altitude	15,000 ft (Operating)		35,000ft (Transit)
Humidity	95% relative humidity per MIL-STD-810E		
Immersion	Withstands 24 hrs in 1m H_2O at 27°C differential		
Sand/Dust	Resistant in 35-knot winds per MIL-STD-810E		
Salt	Resistant per MIL-STD-810E, Method 509.2		
Fungus	Resistant to 28 days growth period		
Shock/Vibe	Random vibration, drop test & loose cargo test /MIL-STD-810E		
EMI/EMC	Complies w/MIL-STD-461A, Level CE06, RE02, RE02.1, RS03		

Sensor	Description	Detection	Size/Weight	Features
Seismic/ Acoustic	Employs sophisticated algorithm to classify targets as personnel, wheeled or tracked veh. based on comb. seismic & acoustic signatures	Tracked Vehicle 0-750 m Wheeled Vehicle 0-500 m Personnel 0-75 m	189mm x 104mm x 80mm Weight: 1.1 kg	■ Passive detection ■ Covert operation ■ Low false alarm rate ■ Quiescent until activated by targets ■ Operates on COTS batteries ■ Low power DSP
Passive Infrared	Detects temp. differential between target and background. Provides direction and target count.	Tracked Vehicle 3-75 m Wheeled Vehicle 3-75 m Personnel 3-30 m	116mm x 66mm x 53mm Weight: .8 kg	
Magnetic	Detects movement of ferrous metals. Provides direction and target count.	Tracked Vehicle 25 m Wheeled Vehicle 15 m Personnel 3 m	116mm x 66mm x 77mm Weight: .6 kg	

Device	Description	Message Type	Size/Weight	Features
Monitor	Provides the capability to display sensor transmissions. Can be used to relay sensor data to an external digital display via built-in RS-232 port.	29-bit REMBASS 101-bit REMBASS 20/29 TRSS 101/285 TRSS	53mm x 78mm x 163mm Weight: 0.7 kg	■ VHF 138-153 MHz ■ 599 channels ■ LPI/LPD ultra-short burst transmissions ■ 2-watt transmitters 15 km range (100 km airborne)
Repeater	Utilized to overcome line-of-sight obstructions or extend communications range by 15 km		197mm x 146mm x 4.75mm; Weight: 2.5 kg (w/o battery)	